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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/563,693	01/05/2006	Gerard A Friour	85978JJH	3009

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EXAMINER	
CLARK, GREGORY D	

ART UNIT	PAPER NUMBER
1794	

MAIL DATE	DELIVERY MODE
09/15/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/563,693	FRIOUR ET AL.	
	Examiner	Art Unit	
	GREGORY CLARK	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06/23/2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The examiner acknowledges the receipt of the applicants' arguments dated 06/23/2009 The claims were not amended.

2. Applicant has indicated that the claim five 35 U.S.C. 103(a) rejection is invalid due to common ownership Effective November 29, 1999, subject matter which was prior art under former 35 U.S.C. 103 via 35 U.S.C. 102(e) was disqualified as prior art against the claimed invention if that subject matter and the claimed invention "were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person." This amendment to 35 U.S.C. 103(c). This provision only relates to prior art having only a 102(e) date. The examiner notes that WO/2004/009368 was published 29 January 2004 and has a valid 35 U.S.C. 102(a) date. 02 July 2004 is effectively the applicants' priority date. Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

3. The terminal disclaimer filed on June 23, 2009 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of any patent issuing from 10/578,810, 10/563,694, 10/521,898 and 10/578,205 has been reviewed and is accepted. The terminal disclaimers have been recorded.

4. Rejections and objections made in previous office action that do not appear below have been overcome by applicant's amendments and therefore the arguments pertaining to these rejections/objections will not be addressed.

Claim Rejections - 35 USC § 102

> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. **Claims 1-4 and 6-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Poncelet (WO/2004/009368).**

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome

either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

6. **Regarding Claims 1-4**, Poncelet teaches an ink jet element containing a support and at least one ink-receiving layer, said ink-receiving layer comprising at least one hydrosoluble binder and at least one aluminosilicate polymer obtainable by a preparation method consisting in treating an aluminum halide with a mixture of at least one silicon alkoxide only having hydrolyzable substituents and at least one silicon alkoxide having a non-hydrolyzable substitiuent, with an aqueous alkali in the presence of silanol groups, the aluminum concentration being maintained less than 0.3 mol/l, the Al/Si molar ratio being maintained between l and 3.6 and the alkali/Al molar ratio being maintained between 2.3 and 3; and then stirring the resulting mixture at ambient temperature in the presence of silanol groups for long enough to form the hybrid aluminosilicate polymer.

Poncelet discloses use of sodium, potassium or lithium hydroxide recording element (page 8, lines 4 and 5, per claims 1 and 2). Poncelet further discloses that colloidal silica is a well known component is ink receiving layers (page 3, line 4). Poncelet also discloses that some of the silanol groups are supplied by silica (particles or beads) (pages 8, lines 11-12).

The examiner takes the position that since the ink receiving layer contains the aluminosilicate polymer which is in part made from sodium, potassium or lithium

hydroxide and silica. These particles are also ultimately a part of the ink receiving layer and portions of the said particles would remain present after the aluminosilicate polymer was made which effectively meets the inorganic particle limitation.

7. **Regarding Claims 6 and 7,** Poncelet discloses that the hybrid aluminosilicate in the ink receiving layer comprises 5 to 95 percent by weight of the dry state ink receiving layer (page 11, lines 28-30).

8. **Regarding Claim 8**, Poncelet discloses the method for preparing the hybrid aluminosilicate (page 7, lines 26-27) involves an aqueous solution of sodium, potassium or lithium hydroxide (page 8, lines 4-5).

9. **Regarding Claims 9 and 10**, Poncelet discloses a recording element where in the aluminum concentration is maintained at less than 0.3mol/L (page 3, line 24-25) and the alkali/Al molar ratio is between 2.3 and 3 (page 3, lines 26-27).

10. **Regarding Claim 11,** Poncelet discloses a preparation method that comprises treating a mixed aluminum and silicon precursor resulting from the hydrolysis of a mixture of aluminum compounds and silicon compounds only having hydrolyzable substituents and silicon compounds having a non-hydrolyzable substituent is a product form an aqueous alkali (pages 3, lines 21-24) where by the aluminum compound is selected from the group consisting of aluminum salts, aluminum

alkoxides and aluminum halogenoalkoxides, at least one compound selected from the group consisting of unmodified silicon alkoxides and chloroalkoxides, at least one compound selected from the group consisting of modified silicon alkoxides and chloroalkoxides. (page 6, lines 10-15).

11. **Regarding Claims 12 and 13,** Poncelet discloses a recording element where the mixed aluminum and silicon compounds are made from a mixture (i) of an aluminum halide and (ii) a mixture with at least one unmodified silicon alkoxide and at least one modified silicon alkoxide (page 7, lines 1-3) and ratio of unmodified silicon alkoxide to modified silicon alkoxide is between 0.1 and 10 in moles of silicon, and is preferably about 1 (page 7, lines 15-16).

12. **Regarding Claims 14-17,** Poncelet discloses a modified silicon alkoxide can be represented by the formula R'-Si- (OR) 3, wherein R represents an alkyl group comprising 1 to 5 carbon atoms R' represents H, F, or a substituted or unsubstituted linear or branched alkyl or alkenyl group, comprising 1 to 8 carbon atoms, (e. g. a methyl, ethyl, n-propyl, n-butyl, 3-chloropropyl group, or a vinyl group), the modified (non-hydrolyzable) silicon alkoxide is methyltriethoxysilane or vinyltriethoxysilane, and the unmodified (hydrolyzable) silicon alkoxide is tetramethyl or tetraethyl orthosilicate (page 7, lines 4-14).

13. **Regarding Claim 18,** Poncelet discloses a recording element where the hydrophilic binder can be gelatin or polyvinyl alcohol (page 5, line 15).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

14. **Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Poncelet (WO/2004/009368) as applied to claim 1 above, and further in view of Liu (5958168).**

15. **Regarding Claim 5,** Poncelet does not disclose the use of calcium or barium carbonate in the ink receiving layer of the ink recording element.

Liu an ink jet recording element where the ink receiving layer may contain calcium carbonate (column 7, line 51).

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teaching of Poncelet and Liu before him or her to modify the ink receiving layer of Poncelet to include calcium carbonate of Liu because Poncelet uses particle and the calcium carbonate taught by Liu could easily incorporated.

The suggestion/motivation for doing so would have been that ink receiving layers taught by Liu imparts improved ink absorption. (column 8, line 53-54).

16. **Claims 1-10, and 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lui (6548149)**.

17. **Regarding Claims 1, 9-10,** Lui discloses an ink recording element formed on a substrate and including a binder and particles of silica prepared by wet method and/or aluminosilicate agglomerated with each other without binder (abstract). Lui further discloses that the aluminosilicate can be produced by subjecting a mixture containing, as principal components, aluminum alkoxide and silicon hydroxide for a hydrolysis (controlled) procedure, and are complex products comprising alumina moieties and silica moieties which are closely combined with each other to such an extent that these moieties cannot be isolated from each other. Usually, in the aluminosilicate particles, the alumina moieties (Al_2O_3) and the silica moieties (SiO_2) are contained in a weight ratio (Al/Si) of 1:4 to 4:1, preferably about 6:2 (column 9, lines 44-53).

Lui also discloses the ink receiving layer contains specific silica and aluminosilicate colloidal particles (column 16, lines 66-67).

The examiner takes the position that although Lui uses only hydrolyzable substituents on the silicon or aluminum compounds and that it would have been obvious to a person of ordinary skill in the art at the time of the invention to use hydrolyzable,

non- hydrolyzable substituents or blend since it is well known in the art that the R group in $RZ(OR')_3$ (where Z = Si or Al) with more hydrocarbon character increases the affinity of a material toward organic medium.

The examiner takes the position that Lui demonstrates that the preparation of aluminosilicate is conducted by hydrolysis and results in a specific ratio range relative to Al/Si. One skilled in the art would conduct such a synthesis to produce the desired ratio similar to the applicant. Lui teaches the preparation of aluminosilicate and its use in ink receiving layers.

If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." (In re Thorpe, 227 USPQ 964,966). Once the examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to the applicant to come forward with evident establishing an unobvious difference between the claimed product and the prior art product (in re Marosi, 710 F.2nd, 802, 218 USPQ 289, 292 (Fed. Cir. 1983, MPEP 2113).

18. **Regarding Claims 2-5,** Lui also discloses that the ink receiving layer can contain aluminum oxide, aluminum hydroxide (column 11, lines 22-23), colloidal silica (column 3, line 50), and calcium carbonate (column 11, lines 22-23).

19. **Regarding Claims 6-7,** Lui discloses that in the ink-receiving there is no limitation to the solid weight ratio of the binder to the silica and/or aluminosilicate pigment particles. Preferably, the binder/pigment ratio is 10:1 to 10:10, more preferably 10:2 to 10:6. If the content of the binder is too high, the resultant ink-receiving layer has a small total volume of pores and thus exhibits unsatisfactory ink absorption.

Lui does not give the exact weight of aluminosilicate in the ink receiving layer-the criteria associated with determining the proper amount is disclosed. The examiner takes the position take Lui shows the awareness in the prior art of the need to add proper amounts of materials to the ink receiving layer by pointing out the unsatisfactory results that can occur when the levels are inappropriate.

Lui discloses the claimed invention except for exact weight of aluminosilicate in the ink receiving layer. It would have been obvious to one having ordinary skill in the art at the time the invention was made to adjust the amount of aluminosilicate in the ink receiving layer, since it has been held that the provision of adjustability, where needed, involves only routine skill in the art. *In re Stevens*, 101 USPQ 284 (CCPA 1954).

20. **Regarding Claim 8,** Lui does not disclose the use of sodium, potassium and lithium hydroxide in the hydrolysis of the aluminum and silicon compounds.

The examiner takes the position the hydrolysis of metal alkoxide compounds is standard in the art and generally conducted under basic condition due to the instability of such material to acidic reaction medium. A person of ordinary skill in the art at the

time of the invention would have full range to use a plethora of basic material to affect controlled hydrolysis which would include sodium, potassium or lithium hydroxide.

21. **Regarding Claim 17,** Lui discloses the use of tetraethyl orthosilicate in the preparation of aluminosilicate (column 23, lines 12-25).

22. **Regarding Claim 18,** Lui discloses polyvinyl alcohol as a binder for the recording media (column 8, line 33).

Response to Amendment

The applicant argues that Poncelet does not disclose a combination of aluminisilicate and inorganic particles.

The examiner counters that the applicant defines inorganic particles as including metal and metal hydroxide. As Poncelet used metal hydroxides in the formation of the aluminosilicates, the examiner takes the position that some of the unreacted inorganic particles would remain in the proximity of the aluminosilicate in the ink receiving layer. Additionally, one of the sources of silanol groups used by Poncelet is from silica particles. The examiner takes the position that some of the silica particle would also be present in the ink receiving layer. As the applicant has not clearly expressed a particular amount of inorganic particles, the examiner takes the position that the inorganic particles disclosed by Poncelet meets the claim limitations.

The applicant argument in reference to claim 5 were addressed in section 2 of this office action.

The applicant argues that Lui only teaches hydrolysable substituents but not non-hydrolyzable.

The examiner agrees with the applicants' assessment of Lui. However, the examiner takes the position that the usage of hydrolyzable , non- hydrolyzable substituents or blend since it is well known in the art and the nature of the R group in RZ(OR')3 (where Z = Si or Al) with more hydrocarbon character increases the affinity of a material towards organic medium. The applicant indicates in the specification that

non- hydrolyzable substituents give the aluminosilicate more organophilie character but there are not specific attributes that would render the usable of non- hydrolyzable substituents as non-obvious. A person of ordinary skill in the art at the time of the invention would have selected from know materials with hydrolyzable and non-hydrolyzable substituents.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GREGORY CLARK whose telephone number is (571)270-7087. The examiner can normally be reached on M-Th 7:00 AM to 5 PM Alternating Fri 7:30 AM to 4 PM and Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Tarazano can be reached on (571) 272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. Lawrence Tarazano/
Supervisory Patent Examiner, Art Unit 1794

GREGORY CLARK
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